

A¹
cancel

(LsSt)(SEQ ID NO:10). The one letter code was used for amino acids. Identical amino acids are shaded in black, similar amino acids are shaded in gray. The dash (-) represents missing sequence information, a dot (.) represents an additional amino acid in a polypeptide. An asterisk (*) represents a stop codon on nucleic acid level.--

In the Figures

Replace FIGs. 5 to 8 with the attached new FIGs. 5A and 5B, 6A and 6B, 7, and 8. These figures have been amended to include SEQ ID NOs and to separate figures with two sheets into two separate figures.

In the Claims:

Cancel claim 4 without prejudice as directed to a non-elected invention.

Cancel claims 1-3 and 5-22 without prejudice and insert new claims 23 to 42 as follows:

--23. An isolated nucleic acid molecule comprising:

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C1

(a) a nucleic acid having the nucleotide sequence of SEQ ID NO:1 or a nucleic acid complementary to said nucleotide sequence, wherein the nucleotide sequence encodes a polypeptide having the biological activity of side-shoot formation, petal formation, and abscission zone formation;

(b) a fragment or derivative of said nucleic acid or said complementary nucleic acid, wherein the fragment or derivative encodes a polypeptide having the biological activity of side-shoot formation, petal formation, and abscission zone formation; or

(c) a nucleic acid that hybridizes with said nucleic acid or said complementary nucleic acid, wherein said hybridizing nucleic acid, or a nucleic acid complementary to said hybridizing nucleic acid, encodes a polypeptide having the biological activity of side-shoot formation, petal formation, and abscission zone formation.

24. The nucleic acid molecule of claim 23, wherein said hybridizing nucleic acid hybridizes with the nucleotide sequence of SEQ ID NO:1 under high stringency conditions.

25. The nucleic acid molecule of claim 23, wherein said polypeptide has the amino acid sequence of SEQ ID NO:2.

26. The nucleic acid molecule of claim 23, wherein the nucleic acid has the nucleotide sequence of SEQ ID NO:1.

27. A vector comprising a nucleic acid molecule of claim 23.

28. A transformed plant cell comprising a nucleic acid molecule of claim 23, wherein the nucleic acid molecule is integrated in the genome of the plant cell.

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cont'd 29. A transformed plant cell according to claim 28, which can be regenerated into a seed producing plant.

30. A transformed plant tissue comprising the transformed plant cell according to claim 28.

31. A transformed plant tissue according to claim 30, which can be regenerated into a seed producing plant.

32. A method for generating a plant having modified side-shoot formation, petal formation, and abscission zone formation, the method comprising:

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C2 integrating a nucleic acid molecule of claim 23 into the genome of a plant cell or a plant tissue for modifying side-shoot formation, petal formation, and abscission zone formation; and regenerating the resulting plant cell or plant tissue into a regenerated plant, wherein the regenerated plant expresses modified side-shoot formation, petal formation, and abscission zone formation.

33. The method of claim 32, wherein the regenerated plant expresses suppressed side-shoot formation, petal formation, and abscission zone formation.

34. The method of claim 32, wherein the regenerated plant expresses increased side-shoot formation, petal formation, and abscission zone formation.

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C3
35. The method of claim 32, wherein the integrating step further comprises integrating the nucleic acid molecule in an antisense orientation relative to an endogenous sequence that modifies side-shoot formation, petal formation, and abscission zone formation.

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cont'd
36. The method of claim 32, wherein the integrating step further comprises integrating the nucleic acid molecule in a sense orientation relative to an endogenous sequence that modifies side-shoot formation, petal formation, and abscission zone formation.

37. The method of claim 32, wherein the integrating step further comprises integrating the nucleic acid molecule into a genomic region of a homologous endogenous gene by homologous recombination.

38. The method of claim 32, wherein the regenerated plant is a tomato plant, a rape plant, a potato plant, or a snapdragon plant.

39. A plant obtained by the method according to claim 32.

40. A seed obtained from a plant according to claim 39.

41. A plant comprising a transformed plant cell according to claim 28.

42. A seed obtained from the plant according to claim 41.--
